

seedling, and that the stem category is rather artificial.—CHARLES J. CHAMBERLAIN.

An arctic-alpine plant association.—Upon the “snow-flush,” a substratum deposited on gentle slopes or flats by streamlets of snow water and composed of fine snow-dust material, there develops a characteristic association or succession of associations, recently described by SMITH.²⁰ He indicates its occurrence on Ben Lawers and cites the work of others, notably that of SCHRÖTER, RÜBEL, and BROCKMANN-JEROSCH, concerning its development upon the Alps. Pioneer algae are succeeded by a thick mat of the liverwort *Anthelia juratzkana*, which gives character and name to the association. *Polytrichum* sp. follows and is succeeded by *Salix herbacea*, *Alchemilla*, *Gnaphalium*, and other alpine plants, the floristic composition of the later stages varying in different localities.—GEO. D. FULLER.

Plant geography of the heights of Hautie.—ALLORGE²¹ has made a floristic study of a plateau 15 by 10 kilometers in area, situated northwest of Paris at the confluence of the rivers Seine and Oise. The elevation of the plateau is about 190 meters, and it exhibits a considerable diversity of soil, with comparatively natural vegetation. The associations have been segregated according to the chemical nature of the soil, and that of the calcifuges is found to be most conspicuous and to cover almost the entire top of the plateau. The regional affinities of the flora are examined and shown to be chiefly western, although the area also seems to be a rather notable meeting ground of certain northern and southern forms.—GEO. D. FULLER.

Nitrite assimilation.—KOSSOWICZ²² has found that molds (*Aspergillus niger*, *Penicillium glaucum*, *Mucor Bodin*, and others) can readily assimilate nitrite when it is the only source of nitrogen. It is important that by the most delicate test (NESSLER'S method), HN_3 could not be detected in the cultures except in two instances, and in these only after long cultural periods (26 days). The nitrite-ion can evidently then be directly assimilated without the intermediate production of NH_3 .—E. M. HARVEY.

A cytological life cycle.—In a series of diagrams based upon the life history of the fern, GRIGGS²³ presents current notions as to the behavior of chromosomes in the sporophyte and gametophyte, and also during fertilization and reduction. While the illustration should not be pressed too far, the diagram will be useful for didactic purposes.—CHARLES J. CHAMBERLAIN.

²⁰ SMITH, W. G., *Anthelia*: an arctic-alpine plant association. *Scot. Bot. Rev.* 1:81-89. 1912.

²¹ ALLORGE, A.-PIERRE, *Essai de géographie botanique des hauteurs de l'Hautie et de leurs dépendence.* *Rev. Gén. Botanique* 25:417-431, 472-493. 1913.

²² KOSSOWICZ, ALEX., *Nitritassimilation durch Schimmelpilze.* *Zeitschr. Gärungsphysiol.* 3:321-326. 1914.

²³ GRIGGS, R. F., *A cytological life cycle.* *Ohio Naturalist* 13:142-145. *pl. 6.* 1913.